

CLEAN COPY OF CLAIMS AS AMENDED

1. (Amended) A corrosion-inhibited fire retardant composition comprising:

at least one fire retardant composition comprising an ammonium polyphosphate;

at least one suspending agent;

a phosphonate selected from the group consisting of aminotri(methylenephosphonic acid), 1-hydroxyethylidene-1,1-diphosphonic acid, hexamethylenediaminetetra(methylenephosphonic acid),

diethylenetriaminepenta(methylenephosphonic acid), and salts thereof, and mixtures thereof; and

a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxalate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof;

wherein said corrosion inhibiting system is present in a minor amount effective to substantially reduce corrosiveness of said fire retardant composition.

2. (Amended) The composition of claim 1 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptomthiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-

tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

3. (Amended) The composition of claim 1 further comprising at least one additive selected from the group consisting of coloring agents, surfactants, stabilizers, rheological modifiers, opacifying pigments and any combination thereof.

4. (Amended) The composition of claim 1 wherein said composition is a concentrate suitable for dilution for application, said at least one corrosion inhibiting compound is at least one azole and said at least one azole is present in said corrosion-inhibited fire retardant composition, in concentrate, in a minor amount effective to obtain a maximum corrosivity of yellow brass to a maximum of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

5. (Amended) The composition of claim 3 wherein said coloring agents are selected from the group consisting of fugitive coloring agents, non-fugitive coloring agents and pigments, extenders, opacifying pigments, and highly colored pigments.

6. (Amended) The composition of claim 1 wherein said at least one suspending agent is selected from the group consisting of Attapulugus, Sepiolite, Fuller's earth, Montmorillonite, and Kaolin clays.

7. (Amended) The composition of claim 1 wherein said corrosion inhibiting system at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

8. (Amended) The composition of claim 1 wherein said composition is a concentrate suitable for dilution for application, said corrosion inhibiting system is present in said corrosion-inhibited fire retardant composition in a minor amount effective to obtain of a maximum corrosivity to aluminum, yellow brass or steel of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

10. (Amended) The composition of claim 1 comprising from about 0.01% by weight to about 10% by weight of said corrosion inhibiting system.

11. (Amended) The composition of claim 1 comprising from about 0.30% by weight to about 6.0% by weight of said corrosion inhibiting system.

12. (Amended) The composition of claim 1 comprising from about 0.6% by weight to about 5.0% by weight of said corrosion inhibiting system.

21. (Amended) The composition of claim 1 wherein the phosphonate makes up less than about 10% by weight of said corrosion-inhibited fire retardant composition.

22. (Amended) The composition of claim 1 wherein the phosphonate makes up from about 1% by weight to about 10% by weight of said corrosion-inhibited fire retardant composition.

23. (Amended) The composition of claim 1 wherein the phosphonate makes up about 4.35% by weight of said corrosion-inhibited fire retardant composition.

24. (Amended) The composition of claim 3 wherein said rheological modifiers are selected from the group consisting of guar gum, derivatized guar gum and xanthan gum.

25. (Amended) A method of preparing a ready-to-use corrosion-inhibited fire retardant composition, adapted for application to wildland fires, the method comprising the steps of:

(a) forming an intermediate concentrate composition comprising the corrosion-inhibited fire retardant composition of claim 1; and

(b) diluting said intermediate concentrate composition with water to form said ready-to-use corrosion-inhibited fire retardant composition.

26. (Amended) The method of claim 25 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptomthiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

27. (Amended) The method of claim 25 wherein said corrosion inhibiting system comprises at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

28. (Amended) The method of claim 25 wherein said intermediate concentrate composition further comprises at least one additive selected from the group consisting of coloring agents, surfactants, stabilizers, rheological modifiers, opacifying pigments and any combination thereof.

29. (Amended) The method of claim 25 wherein said corrosion inhibiting system comprises at least one azole and said at least one azole is present in said intermediate concentrate composition in a minor amount effective to obtain a maximum corrosivity of yellow brass to 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

31. (Amended) The method of claim 25 wherein said intermediate concentrate composition is diluted such that the ready-to-use corrosion-inhibited fire retardant composition has a maximum corrosivity to aluminum of 2.0 mils per year and to brass and steel of 2.0 mils per year when tested in the totally immersed condition and of 5.0 mils per year when tested in the partially immersed condition, as specified and determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

32. (Amended) The method of claim 28 wherein said intermediate concentrate composition further comprises at least one coloring agent selected from the group consisting of fugitive coloring agents, non-fugitive coloring agents and pigments, extenders, opacifying pigments, and highly colored pigments.

33. (Amended) The method of claim 25 wherein said at least one suspending agent is selected from the group consisting of Attapulugus clay, Sepiolite, Fuller's earth, Montmorillonite, and Kaolin clays.

42. (Amended) The method of claim 25 wherein the phosphonate makes up less than about 10% by weight of said ready-to-use corrosion-inhibited fire retardant composition.

43. (Amended) The method of claim 25 wherein the phosphonate makes up from about 1% by weight to about 10% by weight of said ready-to-use corrosion-inhibited fire retardant composition.

44. (Amended) The method of claim 25 wherein the phosphonate about 4.35% by weight of said ready-to-use corrosion-inhibited fire retardant composition.

45. (Amended) The method of claim 28 wherein said rheological modifiers are selected from the group consisting of guar gum, derivatized guar gum and xanthan gum.

47. (Amended) The method of claim 46 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptomthiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

48. (Amended) The method of claim 46 further comprising at least one additive selected from the group consisting of coloring agents, surfactants, stabilizers, rheological modifiers, opacifying pigments, and any combination thereof.

49. (Amended) The method of claim 46 wherein said at least one corrosion inhibiting compound is at least one azole and said at least one azole is present in said corrosion-inhibited fire retardant

composition in a minor amount effective to obtain a maximum corrosivity of yellow brass of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (July 1999) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

50. (Amended) The method of claim 48 wherein said coloring agents are selected from the group consisting of fugitive coloring agents, non-fugitive coloring agents and pigments, extenders, opacifying pigments, and highly colored pigments.

51. (Amended) The method of claim 46 wherein said at least one suspending agent is selected from the group consisting of Attapulugus clay, Sepiolite, Fuller's earth, Montmorillonite, and Kaolin clays.

52. (Amended) The method of claim 46 wherein said corrosion inhibiting system comprises at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

53. (Amended) The method of claim 46 wherein said corrosion inhibiting system is present in a minor amount effective to reduce the maximum corrosivity of said corrosion-inhibited fire retardant composition to aluminum to 5.0 mils per year, to brass to 5.0 mils per year, and to steel to 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

54. (Amended) The method of claim 46 wherein said corrosion-inhibited fire retardant composition comprises from about 0.01% by weight to about 10.0% by weight said corrosion inhibiting system.

55. (Amended) The method of claim 46 wherein said corrosion-inhibited fire retardant composition comprises from about 0.30% by weight to about 6.0% by weight said corrosion inhibiting system.

56. (Amended) The method of claim 46 wherein said corrosion-inhibited fire retardant composition comprises from about .60% by weight to about 5.0% by weight said corrosion inhibiting system.

57. (Amended) The method of claim 48 wherein said rheological modifiers are selected from the group consisting of guar gum, derivatized guar gum and xanthan gum.

58. (Amended) A method of inhibiting corrosion comprising providing a corrodible material and contacting said corrodible material with the corrosion-inhibited fire retardant composition of claim 1.

59. (Amended) The method of claim 58 wherein said azoles are selected from the group consisting of tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptomthiadiazole, 1,2-benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

60. (Amended) The method of claim 58 wherein said corrosion-inhibited fire retardant composition comprises at least one water-soluble corrosion inhibiting compound and at least one water-insoluble corrosion inhibiting compound.

61. (Amended) The method of claim 58 wherein said corrosion-inhibited fire-retardant composition further comprises at least one additive selected from the group consisting of coloring agents, opacifying pigments, surfactants, stabilizers, rheological modifiers, and any combination thereof.

62. (Amended) The method of claim 58 wherein said corrodible material is selected from the group consisting of steel, brass and aluminum.

63. (Amended) The method of claim 58 wherein said corrosion-inhibited fire retardant composition further comprises water.

64. (Amended) The method of claim 58 wherein said at least one suspending agent is selected from the group consisting of Attapulugus clay, Fuller's earth, Montmorillonite, Sepiolite and Kaolin clays.

73. (Amended) The method of claim 58 wherein at least one phosphonate comprises less than about 10% by weight of said composition, based on total ammonium polyphosphate composition.

74. (Amended) The method of claim 58 wherein the phosphonate makes up in the range of about 1% to about 10% by weight of said corrosion-inhibited fire retardant composition.

75. (Amended) The method of claim 58 wherein the phosphonate makes up about 4.35% by weight of said corrosion-inhibited fire retardant composition.

76. (Amended) The method of claim 61 wherein said rheological modifiers are selected from the group consisting of guar gum, derivatized guar gum and xanthan gum.

77. (Amended) The method of claim 61 wherein said coloring agents are selected from the group consisting of fugitive coloring agents, non-fugitive coloring agents and pigments, extenders, opacifying pigments, and highly colored pigments.

78. (Amended) A corrosion-inhibited agricultural plant nutrient composition comprising:

at least one agricultural plant nutrient;

at least one suspending agent;

at least one phosphonate selected from the group consisting of

aminotri(methylenephosphonic acid), 1-hydroxyethylidene-1,1-diphosphonic acid,

hexamethylenediaminetetra(methylenephosphonic acid),

diethylenetriaminepenta(methylenephosphonic acid), salts thereof, and mixtures thereof; and

a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from the group consisting of azoles, ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxalate, ferrous oxide, ferric lactate, ferric resinate and any combination thereof;

wherein said corrosion inhibiting system is present in a minor amount effective to substantially reduce corrosiveness of said agricultural plant nutrient composition.